INTERNATIONAL SEARCH REPORT

Internation I Application No PCT/GB 03/01641

| A. CLASSIFICATION OF SUBJECT MATTER IPC 7 B21B27/08 B22D11/128 F27D3/02 | | | | | | | | | |
|--|---|--------------------------------|------|--|--|--|--|--|--|
| | | | | | | | | | |
| According to International Patent Classification (IPC) or to both national classification and IPC | | | | | | | | | |
| B. FIELDS SEARCHED Minimum documentation searched (classification system followed by classification symbols) | | | | | | | | | |
| IPC 7 B21B B22D F27D | | | | | | | | | |
| Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched | | | | | | | | | |
| Electronic data base consulted during the International search (name of data base and, where practical, search terms used) | | | | | | | | | |
| EPO-In | ternal, PAJ | | | | | | | | |
| | | | | | | | | | |
| C. DOCUMENTS CONSIDERED TO BE RELEVANT | | | | | | | | | |
| Category ° | Citation of document, with indication, where appropriate, of the rele | Retevant to claim No. | | | | | | | |
| х | DE 100 24 556 A (THYSSEN KRUPP EN | 1-23 | | | | | | | |
| A | GMBH) 29 November 2001 (2001-11-2 column 3, line 14 - line 26; figu | 24-29 | | | | | | | |
| х | GB 2 046 386 A (AEROQUIP LTD) 12 November 1980 (1980-11-12) | | 1-23 | | | | | | |
| Α | page 1, line 122 -page 2, line 2; | 24-29 | | | | | | | |
| Х | PATENT ABSTRACTS OF JAPAN vol. 2000, no. 25, 12 April 2001 (2001-04-12) | 1-23 | | | | | | | |
| | -& JP 2001 225155 A (SUMITOMO HEA LTD), 21 August 2001 (2001-08-21) | | | | | | | | |
| Α | abstract; figures 1,3 | 24-29 | | | | | | | |
| X | DE 34 21 753 A (NAGEMA VEB K) 18 April 1985 (1985-04-18) | 1 | | | | | | | |
| A | figure 1 | 27 | | | | | | | |
| | | | | | | | | | |
| Further documents are listed in the continuation of box C. Patent family members are listed in annex. | | | | | | | | | |
| *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the | | | | | | | | | |
| considered to be of particular relevance invention *E* earlier document but published on or after the international filing date *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to | | | | | | | | | |
| the document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another claimon or other special reason (as specified) "Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the | | | | | | | | | |
| *O* document referring to an oral discipsure, use, exhibition or other means document is combined with one or more other such document other means, such combination being obvious to a person skilled | | | | | | | | | |
| later than the priority date claimed "&" document member of the same | | | | | | | | | |
| Date of the actual completion of the International search Date of mailing of the international search report | | | | | | | | | |
| 17 July 2003 | | 06/08/2003 Authorized officer | | | | | | | |
| European Patent Office, P.B. 5818 Patentlaan 2 NL – 2280 HV Rijswijk | | | | | | | | | |
| | Tel. (+31-70) 340-2040, Tx. 31 651 epo nl, Fax: (+31-70) 340-3016 | Forciniti, M | | | | | | | |

INTERNATIONAL SEARCH REPORT

mation on patent family members

International Application No PCT/GB 03/01641

| Patent document cited in search report | | Publication date | | Patent family member(s) | Publication date |
|--|---|---------------------|----------------------------------|--|--|
| DE 10024556 | A | 29-11-2001 | DE CA CN WO EP | 10024556 A1 2409024 A1 1429330 T 0188452 A1 1285209 A1 | 29-11-2001 15-11-2002 09-07-2003 22-11-2001 26-02-2003 |
| GB 2046386 | Α | 12-11-1980 | NONE | | |
| JP 2001225155 | A | 21-08-2001 | NONE | | |
| DE 3421753 | Α | 18-04-1985 | DD CH DE IN IT JP | 217721 A1 666331 A5 3421753 A1 161538 A1 1179426 B 60078546 A | 23-01-1985 15-07-1988 18-04-1985 19-12-1987 16-09-1987 04-05-1985 |